

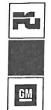
Fisher Guide Division

1000 Town Line Road

General Motors Corporation

Syracuse, New York 13221-4869

#### Syracuse Plant



PEL: WK88-018

June 27, 1988

Mr. G. Michael McPeck New York State Department of Environmental Conservation Region 7 7481 Henry Clay Boulevard Liverpool, New York 13088

Subject: Ley Creek

Dear Mr. McPeck:

Enclosed is a copy of the report entitled "Field Investigation Ley Creek Dredged Material Area". This report outlines the work performed to date under the Ley Creek Consent Order and proposes the location of the six (6) Monitoring Wells (MW) which are to be installed in accordance with Task 2 of the Work Plan.

As the Monitoring Wells locations are to be selected with the concurrence of the D.E.C., please review the report and contact Mr. Jim Mickam of O'Brien & Gere Engineers at: (315) 451-4700, whether you concur with the proposed locations. This letter is directed to you, given our under standing that you are the D.E.C.'s field representative in this matter. Arrangements as to commencement of the Monitoring Well installation can be made directly with O'Brien & Gere.

Finally, with respect to the analytical data contained in the report, only two (2) borings showed any concentrations above the hazardous waste threshold of 50 ppm polychlorinated biphenyls (PCBs). These two points are located on the east side of the study area, south of Ley Creek.

PEL: WK88-018 Letter to Mr. G. Michael McPeck Page 2

If you should have any questions or require further copies of the report, feel free to contact me at: (315) 432-5206.

Very truly yours,

FISHER GUIDE DIVISION
General Motors Corporation

Richard J. Larkin

Manager -

Manufacturing Engineering

WEK/RJL/emr Enclosure

#### Report

# Field Investigatio Ley Creek Dredged Materia Are

Interim Technical Memoran cum

General Motors Corporation Fisher Guide Division East Syracuse, New York

June 1988



## FIELD INVESTIGATION LEY CREEK DREDGED MATERIAL AREA

INTERIM TECHNICAL MEMORANDUM

GENERAL MOTORS CORPORATION FISHER GUIDE DIVISION EAST SYRACUSE, NEW YORK

**JUNE 1988** 

O'BRIEN & GERE ENGINEERS, INC. 1304 BUCKLEY ROAD SYRACUSE, NEW YORK 13221

#### I. INTRODUCTION

This memorandum presents data collected to date in conjunction with the General Motors Corporation, October 1987, Field Investigations, Work Plan, at the Ley Creek Dredged Materials Site, in the Town of Salina, East Syracuse, New York. The purpose of the investigation is to evaluate the extent of soils and ground water containing PCBs in areas immediately adjacent to Ley Creek from Townline Road downstream to the Town of Salina Highway Garage. The study area covers a distance of approximately 5,000 feet as shown in Figure 1. Specifically, this memorandum outlines the work efforts completed to date, provides geologic and laboratory analytical data, and defines the proposed locations of the 6 monitoring wells to be installed as described in Task 2 of the Work Plan.

#### II. FIELD INVESTIGATIONS

#### A. Geophysical Surveys

Surface geophysical survey techniques were tested and evaluated on the site to assess their ability to delineate the horizontal and vertical limits of dredged materials with respect to native materials. Conventional resistivity and fixed space electromagnetic terrain conductivity techniques were tested on a previously investigated area to determine the ability of each method to distinguish dredged materials from native soils. The preliminary testing indicated that electrical interferences resulting from high tension power lines, which traverse the site area, affect data variability by as much as four times that of actual variations in soil conductivity, producing erroneous uninterpretable data. The

methods and results of these test surveys are discussed in Attachment A, appended to this document.

#### B. Soil Borings and Sampling

A total of 23 soil borings were completed along the south and north sides of Ley Creek, between Townline Road and the Town of Salina Garage (Figure 2). The locations of the soil borings were identified in the work plan and approved in the field by representatives from the New York State Department of Conservation (Mr. Mike McPeck) and the Onondaga County Health Department (Mr. Jeffery Banikowski and Mr. Tim Purcell) prior to completion. Seventeen soil borings were located along the south bank of Ley Creek. Soil samples were collected as per the specifications outlined in the October 1987 Work Plan and completed to a depth of approximately 4 feet below the base of fill materials and ranged in depth from 10 to 16 feet below ground level. The 6 soil borings completed along the north side of Ley Creek were installed using a tripod rig as described in the attached letter dated February 1, 1988 (Attachment B). As agreed upon with Mr. McPeck and Mr. Purcell, these borings were installed to a depth of 8 feet.

Soil samples were collected continuously, using split-barrel samplers, as per ASTM-D-1586-67. Soil samples collected from the split-barrel samplers were divided length-wise into two parts. One half of the sample was collected and submitted to OBG Laboratories, Inc. The remaining portion was retained for descriptive interpretation, subsequent analyses and/or to be split with the NYSDEC and OCHD representatives at their discretion.

The soil samples were relinquished under chain of custody to OBG Laboratories, Inc., and submitted for PCB analyses (SW 846-8080). All

analyses and QA/QC were completed in accordance with the procedures outlined in the approved work plan. The collected soil samples were composited in the laboratory to represent four foot intervals as described in the Work Plan.

#### III. INVESTIGATIVE RESULTS

#### A. Local Geology

A review of subsurface samples collected during the soil boring program showed that the geology at the Ley Creek site, is characterized by disturbed dredged materials superposed on, natural reworked glacial lacustrine and glacial till deposits.

The dredged materials are comprised mainly of silt, clay, fine sand and gravel with varying amounts of miscellaneous debris (wood fragments, plant materials, glass, etc.). On the south side of Ley Creek these deposits range from 4 to 10 feet in depth. Along the north side of the creek, the dredged materials range from 0 to 4 feet in depth. The glacio-lacustrine deposits underlying the dredged materials, consist primarily of silt, clay, fine sand, and varying amounts of fine gravel. These deposits do not exhibit well defined stratigraphy. The deposits most likely represent glacio-lacustrine sediments reworked and deposited by recent fluvial activity, prior to the reconstruction of the Ley Creek stream channel. Underlying these deposits is a dense red till. This layer is believed to serve as an aquitard to vertical ground water flow. In the vicinity of the Ley Creek site the top of the till surface was intersected at a depth of approximately 364 to 369 feet (AMSL). To the south of the site, in the vicinity of the Fisher Guide Facility, this till layer was encountered during a previous study at a depth of

approximately 353 feet. A complete set of boring logs pertaining to the recent Ley Creek work effort are presented as Attachment C.

#### B. Analytical Results

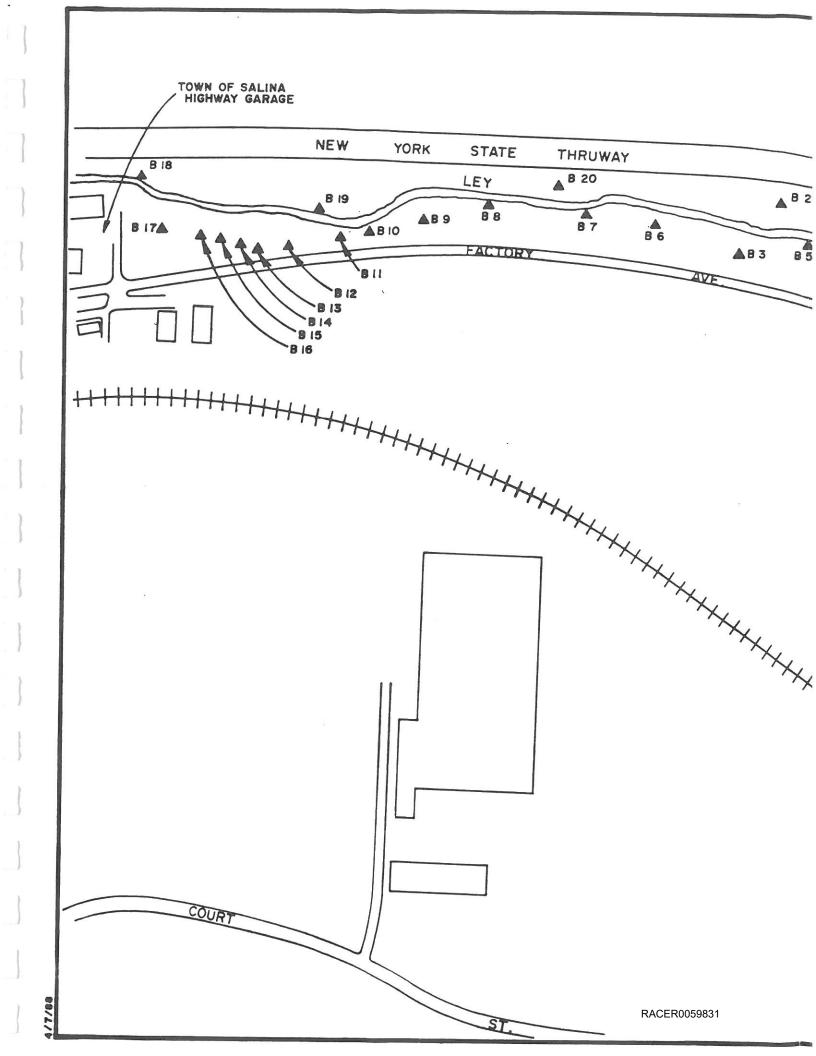
Soil samples collected continuously, at 2 foot intervals in the field, were composited in the laboratory. Subsequent analytical represents resultant concentrations measured over a 4 foot interval (i.e. 0-4', 4-8', etc.) These composited samples were analyzed for PCBs as per EPA Method SW846-8080. The resultant laboratory data reveals that concentrations of PCBs greater than 50 ppm are present in only two of the soil borings, located along the south side of Ley Creek. These borings include B1 and B6 which exhibited maximum concentrations of 53 and 180 ppm, respectively. Maximum reported concentrations of PCBs measured in ppm, at each boring location are illustrated in Figure 3. Detectable values of PCBs, present in the soils, are essentially limited to the south side of Ley Creek, east of soil boring B11. Three soil samples collected at boring locations B19, B20 and B22 located on the north side of Ley Creek exhibited concentrations above the detection limit (1 ppm). A complete set of laboratory data is presented in Attachment D. A review of the QA/QC data indicate the data is valid.

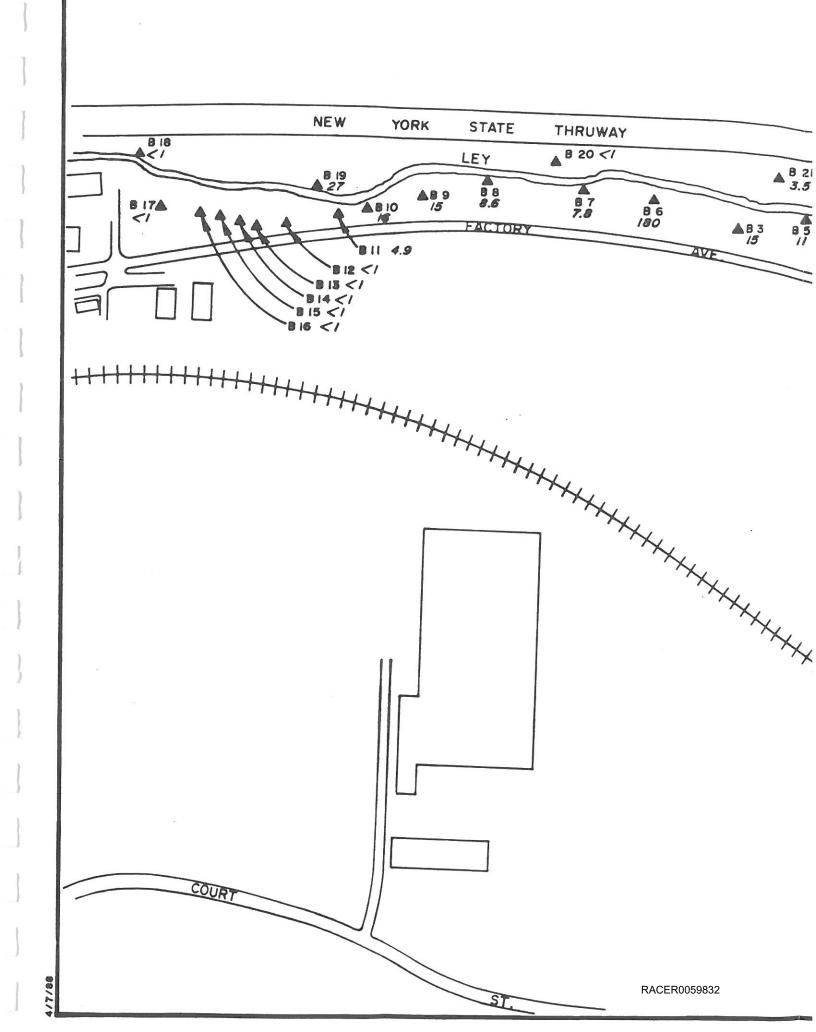
#### C. Proposed Locations of Monitoring Wells

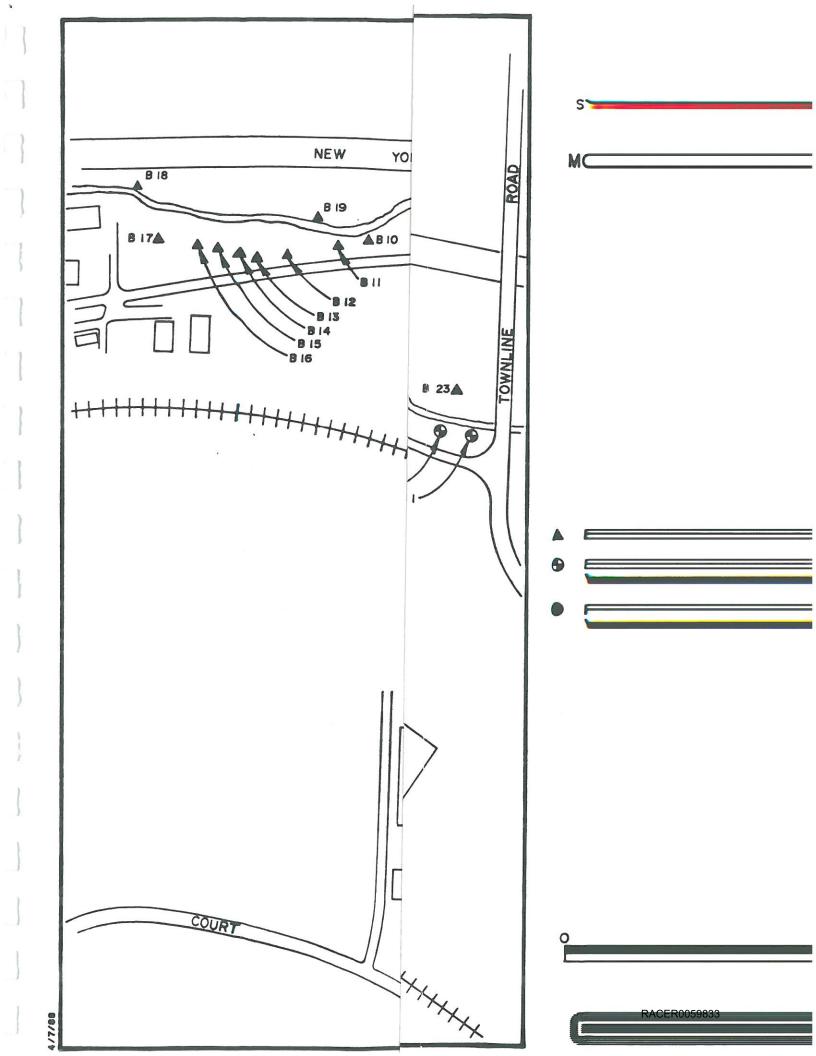
In accordance with Task 2 of the October 1987, Work Plan, the locations of the 6 proposed monitoring wells have been identified and are illustrated in Figure 4. These proposed well locations were selected in areas where maximum PCB concentrations were detected. Additionally, the proposed well sites were located spatially, in a manner which will enable the calculation of horizontal ground flow rates and flow direction.

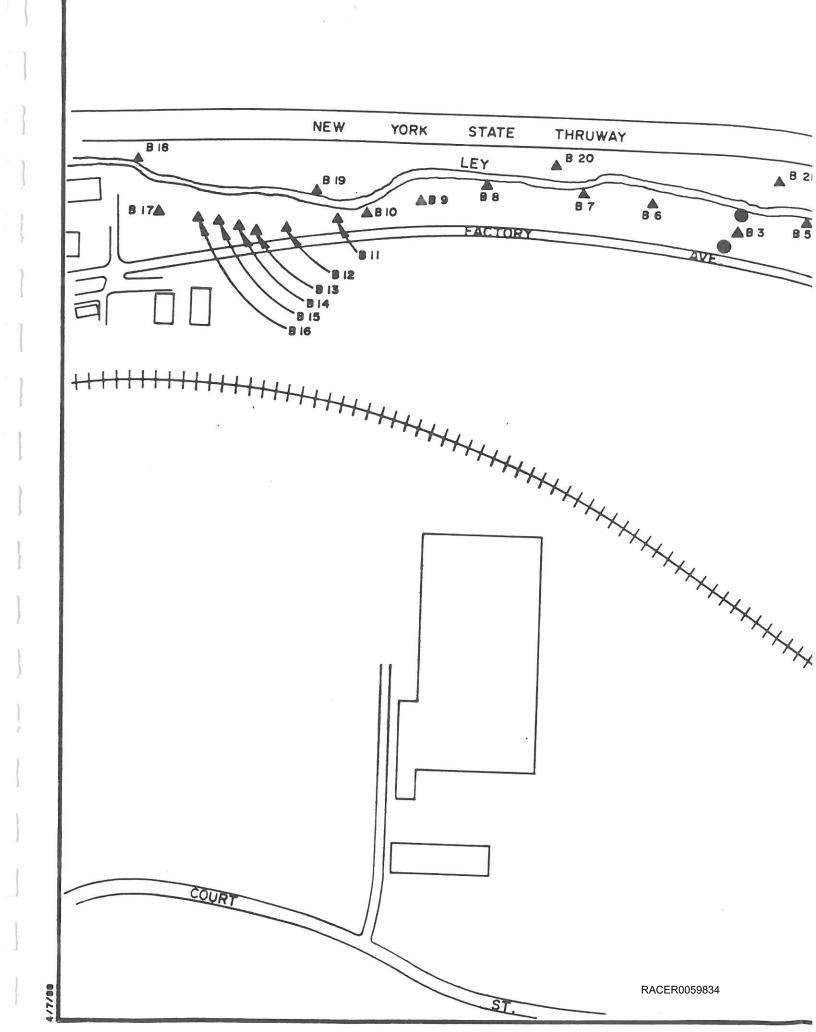
The tentative scheduling for the installation of these monitoring wells will be initiated pending the review of this document, by the New York State Department of Environmental Conservation and the Onondaga County Health Department.

### **Figur**









Attachment A
Geophysical Test Survey

MEMO:

To Files

FROM:

W.J. Gabriel

RE:

General Motors Corporation

Ley Creek Project

Geophysical Test Survey

FILE:

3247.021.130

DATE:

January 27, 1988

CC:

E.C. Tifft, Jr. J.C. Tomik S.W. Kaczmar

H.T. Appleton

w.g.s.

On Friday, January 8, 1988, I performed a geophysical survey at the General Motors, Ley Creek Site. The survey was conducted to assess the suitability of geophysical techniques to define lateral changes in fill materials and vertical depths of the fill. The proposed techniques included electromagnetic terrain conductivity and electrical resistivity methods.

Initial site investigations revealed that the site is traversed by overhead, unshielded, high tension power lines. Underground utilities include a sewer main which runs along the south property boundary and a buried power line located along the eastern portion of the property. The site is undeveloped, undulating, and covered with varying densities of tall weeds, brush and trees. Elevated mounds of fill materials are evident throughout the site. The mounds are composed of a variety of materials, including dredged fill and hard fill (concrete, rebar, pipes, etc.). These lateral changes in surface materials resulting from dumping and dredging, topographic irregularities and discontinuities, (drainage, ravines, dense vegetation, etc.), and the presence of the overhead power lines, preclude accurate resistivity data collection. Also in many cases resistivity probes could not be driven into these hard fill materials and/or frozen ground conditions.

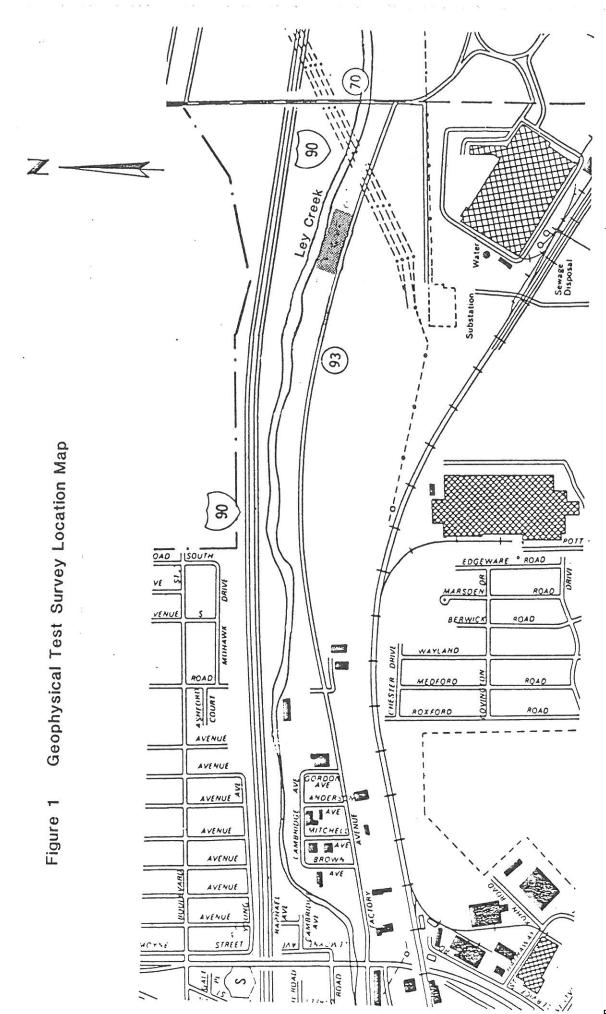
In order to test the accuracy of electromagnetic techniques at the site, a single traverse line 300 feet in length was established in a centralized area where quantitative cultural effects or "noise" (power lines, metal debris, etc.) would be at a minimum (Figure 1). A Geonics EM-31 Fixed Spacing Electromagnetic Terrain Conductivity Meter was used throughout the test survey. The traverse was essentially oriented east to west along the central portion of the site. The initial 150 feet of the traverse was located in the vicinity of the power lines. The remaining 150 feet of the traverse was located approximately 50 feet (horizontal distance) from the overhead power lines. Data were collected at 10 foot intervals along the initial 170 feet of the traverse. Data stations were located adjacent to and over elevated fill areas to determine conductivity variations related to changes in fill materials and to assess the effects of the cultural interferences. To assess the quantitative affects of the cultural interferences ("noise") additional data were also collected adjacent to the traverse, beneath the power lines, and along the creek bank which is located approximately 100 feet from the power lines. The approximate locations of the data stations are presented in Figure 2.

Memo: 3247.021.130 February 2, 1988 Page Two

A review of the data reveals that conductivity contrasts between fill and non-fill materials are subtle (0 to 5 millimhos/meter) and/or poorly defined. By comparison, data variations related to the distance from the overhead power lines varied as much as 15 to 20 millimhos/meter. These cultural influences may therefore affect variations in data values by as much as 4 times that of actual variations in the soil conductivity. In general sites which exhibit extraneous "cultural" effects such as these are not amenable to direct and/or indirect electrical induction geophysical techniques. It should also be noted that further to the west an additional set of overhead, high tension wires, runs parallel to those monitored in the test area, compounding the "noise" problems.

In retrospect, initial site investigations should be designed to define and locate potential sources of interference which can affect geophysical data quality. Based on the findings of such an investigation, the feasibility of the proposed geophysical techniques should then be evaluated with respect to instrumentation performance considerations, and the required qualitative resolution of the resultant data.

WJG:emr/30.28





GM-LEY GEOPHYSICAL SURVEY DATA. 1/27/88 W.1. G. 3247.021.130 N/X Soil ok W Paenuce To Lines RACER0059839

Attachment B

Field Investigations Memorandum 2/1/88



#### O'BRIEN 5 GERE

February 1, 1988

Mr. William E. Kochem, Jr.
Senior Plant Engineer
Plant Engineering Department
Fisher Guide Division
General Motors Corporation
1000 Town Line Road
Syracuse, New York 13221-4869

bcc: M.A. Gilmer, Jr. (General Motors Corporation)
S.W. Kaczmar (O'Brien & Gere Engineers, Inc.)
P. Kienle (General Motors Corporation)
B.R. Kogut, Esq. (Bond, Schoeneck & King)
R. Larkin (General Motors Corporation)
W.J. McFarland (General Motors Corporation)
H. J. Moffat (General Motors Corporation)
T.K. Pelis (O'Brien & Gere Engineers, Inc.)
J.C. Tomik (O'Brien & Gere Engineers, Inc.)
J. P. Walle, Esq. (General Motors Corporation)
J.T. Mickam (O'Brien & Gere)

Re: Field Investigation Ley Creek Soil Borings Installation

File: 3247.021

#### Dear Bill:

As you are aware, we have been actively installing soil borings, collecting and compositing soil samples, etc. at the Ley Creek Site, in accordance with the NYSDEC Consent Order signed by General Motors. To date, 17 soil borings have been installed along the south side of the Ley Creek. The 6 borings located along the north creek bank were not installed due to accessibility problems. An on-site field investigation of the Ley Creek north bank revealed conditions that were not amenable to the drilling equipment used to install the borings on the south side. In light of these site specific problems, alternative drilling equipment and methodologies were discussed with Mike McPeck (New York State Department of Environmental Conservation) and Jeff Banikowski (Onondaga County Health Department).

The mutually agreed upon alternative method will be to complete the 6 shallow north side borings with a portable tripod rig. This method would provide access to otherwise inaccessible areas and is presently available. The method utilizes the same split spoon soil sampling technique as outlined in the Consent Order. However, the soil sampler is advanced with the tripod rig rather than with a hollow stem auger as indicated in the work plan. As these will be shallow borings (less than 8 feet) we do not anticipate any logistical problems using this method.

We would prefer to install the 6 north side borings as soon as possible so as to provide temporal continuity in the field sampling and laboratory analyses programs. This portion of the program has been scheduled to begin on February 3, 1988. We will adhere to this schedule unless objections are received prior to February 3, 1988.

Mr. William E. Kochem, Jr. February 1, 1988 Page Two

Copies of this correspondence are being sent to the persons referenced below including local NYSDEC (Region 7) and OCHD representatives. If you desire additional copies to be forwarded to other interested and/or involved parties, or if you have any questions concerning this matter, please do not hesitate to contact me.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Edwin C. Tifft, Jr., Ph.D.

Vice President

WJG:emr/30.24

cc: R. Burdick (Onondaga County Health Department)

L. Gross (NYSDEC Region 7)

M. McPeck (NYSDEC Region 7)

J. Banikowski (Onondaga County Health Department)

F. Bifera (NYSDEC, Albany)

R. Tramontano (NYSDEC, Albany)

Attachment C Boring Logs

		& GERE S, INC.				TEST B	DRING LOG	Repo	rt of Boring Sheet I	No.: of 1	B-1		
		ocation ENERAL /	LEY CREEK	SITE		SAI Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wat	Denth		te te	***	
Forema	n: (	GLENN LA	ATT-WOLFF ANSING ILLIAM GABR	IEL			Boring Location: Ground Elevation: 380 Dates: Started:01/12/	.0	110 100 100 100		Ended:	01/13	2/88
			Sample					Stratum		Fie	ld Tes	tino	R
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sai Descr	ople ription	Change General Descript	Equipment Installed	рН	Sp Cond	1	100
	1	<b>0-</b> 2	2-3-3-5			Light brown, very loc medium SAND, layers o silt. some black orga	ose, very moist, fine- of dark brown clay and unic stains.						
5)	2	2-4	5-5-5-4			Same as 0-2°, with so stems.							
	3	4-6	2-3-3-4			medium SAND, some sil	ose, saturated, fine- t and clay layer, with plant steams (peat).						
	4	6-8	5-6-6-11		$\vdash$	Same as 4-6%.	pronv sveams (peav):						
	5	8-10	4-5-7-6			Dark gray to black, m	edium stiff, saturated						
						CLAY and silt, some p medium sand, trace of	eat, little fine- gravel.						
	$\dashv$							1					
	$\dashv$												
$\rightarrow$	+					•	0	T					
$\dashv$	+							and the state of t					
	1												
$\rightarrow$	$\perp$												
-	+												
$\dashv$	$\dagger$												
									A CONTRACTOR OF THE CONTRACTOR				
_	1								- Addition of the Addition of	-			
$\dashv$	+												
-	+							- Aller - Alle					
	$\dagger$				$\overline{}$								
	+										1		
	1												
	I												
								1		1			

O' BR	IEN VEER	& GERE RS, INC.	10011 (10010 1 )			TEST B	ORING LOG	Repo	rt of Boring Sheet I	No.: of 1	B-2		
Projec	et L	ocation:	LEY CREEK	SITE			MPLER	Ground Wat			te		
Client	:: G	ENERAL A	4OTORS			Type: SPLIT SPOON Hammer: 140 LBS	Fall: 30 INCHES	File No.:	Depth 3247.021.130	Da	ite		
Boring	Co	.: PARRE	ATT-WOLFF				Boring Location:						
OBG Ge	olo	GLENN LA gist: WI	LLIAM GABR	RIEL			Ground Elevation: 381 Dates: Started:01/12/	.0' 88			Ended:	01/12	2/88
	T		Sample				1	Stratum		Fie	ld Tes	ting	R
Depth			Blows	Penetr/	"N"		mple ription	Change General	Equipment Installed		Sp		m k
	No	-	/6"	Recovry	Value		•	Descript		рН	Cond	HNU	5¥
	1	0-2	5-5-5-5			Dark brown, moist, lo some, silt, and peat.	oose, fine-medium SAND,						
						,, p							
	2	2-4	2-3-3-6			Same as 0-21, with wo nairs, etc.	ood fragments and root						
						1411 36 645.							
	3	4-6	4-5-5-6			ark brown, loose, mo	ist, silt, some fine						
					i i	sano, little clay, ma mairs, etc.	ny plant fibers, root						
	4	6-8	9-8-8-7		D	ark brown, loose, mo	ist, SILT, some light						
					r	rown clay, little ve oot hairs and plant	ry fine-fine sand, few stems.	1					
						Ť.							
	5	8-10	2-2-3-5		F	irst 6" same as at 6	-8' (piece of ceramic	1					
	$\dashv$				t	ile) change to (at 8	.51) Light pray, very						
	$\dashv$				c	lay, iron stains and	ND, some silt, little mottles.	1					
	6	10-12	3-4-5-5			edium brown to yello	wish brown soft		=				
	+				m	oist, SILT, some very	v fine-fine sand.	a					-
	$\dashv$				S	tains and light gray	mottles.	ĺ	1				
	7	12-14	2-3-4-4		——.	:-bk	h h						
	+	11-14	2344		Si	ight gray to yellowis aturated, fine SAND,	little silt and clay.						
	+								-				
-	+												
$\longrightarrow$	+												
	$\downarrow$								1			1	
	1												
	1										1		
												1	-
											1	1	
	T												
	1						<sub>2</sub>		-				
				L									1

🚗 1. To the discussion on the contraction of the graph figure of the property of the property of the first of the contraction of the contraction

O' BRI ENGIN	EN EER	& GERE IS, INC.				TEST B	ORING LOG		Repo	rt of Boring Sheet I	No.: of 1	B-3		
		ocation: ENERAL P	LEY CREEK OTORS	SITE		Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 3	0 INCHES	Ground Wat File No.:	er Depth Depth 3247.021.130		ite ite		
Forema	n:	GLENN LA	ATT-WOLFF ANSING ILLIAM GABR	IEL		-	Boring Location   Boround Elevat   Dates: Started	ion: 376.	. 6' 38			Ended:	01/18	2/88
			Sample						Stratum		Fie	ld Tes	ting	R
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value		mple ription		Change General Descript	Equipment Installed	рН	Sp Cond	HNU	M k 51
	1	0-2	4-5-7-6		-	Dark brown to reddish moist, SILT and fine gravel, root hairs, p	sand, some clay	. trace						Ī
						3 , , , ,								
	5	2-4	4-4-4-5			Dark brown to reddish fine SAND, some silt, fine-coarse gravel, m stems, etc.	little clay. 1	ittle						
	3	4-6	6-7-5-5			Dark brown to black.	medium stiff, v	ery						
					1 1	moist, SILT, some fin change to light gray sand, saturated.	e sand, little to brown, fine-	clay, medium						
	4	6-8	3-4-4-4			Brown to reddish brow saturated, fine-mediu and yellowish brown c	n, very loose, m SAND, little	silt						
	1					and yellowish brown c	lay.							
	5	8-10	4-2-3-4			Brown-yellowish brown and silt, some fine s matters (wood, plants	and, and black (	ed Clay organic						
	+													
	7													
	†													
	$\dagger$												1	
$\dashv$	+									8				
	+													
	1													
-	+			3							- And the second			
	+													
	+													
														1

		& GERE RS, INC.				TEST B	ORING LOG	Repo	ort of Boring Sheet I	No.: of 1	B-4		
		ocation ENERAL N	: LEY CREE! OTORS	( SITE		Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wat	Denth	Da.	ite ite		
Forema	m:	GLENN LA	ATT-WOLFF ANSING CLLIAM GABR	RIEL			Boring Location: Ground Elevation: 375 Dates: Started:01/12/	i. 0' 88			Ended:	01/12	2/88
	Γ		Sample			_		Stratum	T T	Fie	ld Tes	ting	R
Depth	No	Depth	Blows /6"	Penetr/ Recovry			mple ription	Change General Descript	Equipment Installed	рН	Sp Cond		m k
	1	0-2	2-3-3-4			Medium-dark brown, so clay and fine sand, t gravel, plant stems, fragments, etc.	oft, moist, SILT, some crace fine-medium root hairs, wood						
	2	2-4	4-6-7-12			Dark brown, loose, mo silt, trace clay, roo fragments, few light	oist, very fine SAND, thairs, wood gray mottles.						
	3	4-6	5-5-5-6		a	Reddish brown, loose, saturated, very fine- and silt, few fine ro	very moist to fine SAND, some clay ot hairs and plant						
	4	6-8	7-5-5-6		s	ame as at 4-6', with lay content (saturat	increasing silt and						
						tay content (Saturat	eu).						
									٠	۰			
	1										8.		
	+							The second se					
	1												
	+												
	+										A PRINCIPAL OF THE PERSON AND THE PE		
$\dashv$	+				-								
												$\bot$	4

		& GERE				TEST B	DRING LOG	Repo	rt of Boring Sheet 1	No.: of 1	B-5		
		ocation: ENERAL P	LEY CREEK	SITE		SAI Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wat	Denth		te te		
Forema	n:	GLENN LA	ATT-WOLFF ANSING LLIAM GABR	IEL			Boring Location: Ground Elevation: 375 Dates: Started:01/13/	.3° . 88			Ended:	01/13	3/88
	Π		Sample				-	Stratum		Fie	ld Tes	ting	R
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value		ple ription	Change General Descript	Equipment Installed	рН	Sp Cond	1	lu
	1	<b>0</b> -2	1-2-2-2			Dark brown to yellowi moist, very fine sand	sh brown, very loose, and silt, little						T
						clay, wood fragments,	plant stems, etc.						
	2	2-4	6-7-11-9		<del>                                     </del>	very fine-fine sand a	brown, loose, moist, nd silt, some clay,						
						wood fragments, plant mottles?	stems, etc. Iron						
	3	4-6	3-3-5-4		——- d	dark gray silt and me	moist, fine sand, some dium gray clays, wood						
	$\vdash$					fragments, plant stem	s, etc.						
	4	6-8	5-4-3-3	-	<u> </u>	and, some dark gray	ry moist, fine-medium silt, and reddish						
					b	rown clay, few root !	hairs and plant stems.						
	5	8-10	2-2-2-3		L	ame as at 6-8', chan ight brown to gray,	soft, saturated clay,						
					5	ome silt and very fir	ne sand.						
	6	10-12	WH-1-2-2		B1	rownish-gray, very so ome silt, little very	oft, saturated, clay, fine sand.						
	+												
	1												
	+												
	7												
	+												
	1												
	+												
	1												-
	+												
	+											l	
					•		-				R00598		

		& GERE RS, INC.				TEST B	DRING LOG	Repo	rt of Boring Sheet 1	No.:	B-6		
1		ocation: SENERAL M	LEY CREEK	SITE		SAI Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wat	Depth	Da Da			
Forema	n:	GLENN LA	ATT-WOLFF ANSING ILLIAM GABR	IEL			Boring Location: Ground Elevation: 379 Dates: Started:01/13/				Ended:	01/13	3/88
	T		Sample					Stratum		Fie	ld Tes	ting	R
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value		ple ription	Change General Descript	Equipment Installed	pН	Sp Cond	1	lm l
	1	0-2	1-2-2-4			Dark brown, very loos some silt, little cla plant stems.	se, moist, fine SAND, sy, root hairs and						П
	2	2-4	8-4-5-6			Dark brown to reddish fine SAND and silt. s	brown, loose, moist, ome clay, trace fine						
						gravel, wood fragment	s, plant stems, etc.	-					
	3	4-6	2-2-2			Dark brown, moist, so sand, some light brow and plant stems, etc.	n clav. few root hairs!						
	4	6-8	1-2-3-3			Dark brown to black, SILT, some fine sand wood fragments, etc.	soft, very moist, and clay, plant stems,						
	5	8-10	2-4-6-5			Dark brown-black, loo SAND, some silt and c	lav. plant stems. wood!						
					'	fragments, etc. (bott	om of fill at ~8.5)						
	6	10-12	1-WH-1-1		S	Same as 8.5-10.01.				.			
								the substitute of the substitu					
-	$\dashv$												
	-										1		
	$\dashv$				-				1				l
	$\dashv$							ĺ	1				
					_				ĺ		1		
-	+												
-+	+								1		1		
$\dashv$	+				$\dashv$			1					
	+								1		1		
$\dashv$	+	$\dashv$							1		ľ		
$\dashv$	$\dagger$							-					
-	+						, .						
-	$\dagger$				$\dashv$								
	+	$\neg \uparrow$			-								
													$\dashv$

O'BRIEN & GERE ENGINERS, INC.  Project Location: LEY CREEK SITE Client: GENERAL MOTORS  Project Location: LEY CREEK SITE Client: GENERAL MOTORS  Project Location: LEY CREEK SITE Client: GENERAL MOTORS  Project Location: Fall: 30 INCHES Fall: 30 INCHES File No.: 3247.021.130  Boring Location: Ground Elevation: 381.5' Dates: Started:01/13/88  Ended:00  Boring Location: Ground Elevation: 381.5' Dates: Started:01/13/88  Ended:00  Sample Depth No Depth N	ng R
Client: GENERAL MOTORS    Type: SPLIT SPOON   Hammer: 140 LBS   Fall: 30 INCHES   File No.: 3247.021.130   Depth   Dep	ng R
Client: GENERAL MOTORS	ng R
Sample   Sample   Sample   Sample   Sample   Sample   Change   C	ng R
Depth No Depth /6" Recovry Value Sample Description Change General Descript Installed Descript Installed Descript PH Cond Physical Descript Cond Physical Descript Physical Descript De	lm k
Depth No Depth /6" Recovry Value Description Change General Descript Installed Descript Property No Depth /6" Recovry Value Descript Descr	m k
SAND, some silt, little clay, plant stems, etc.  2 2-4 2-3-4-5  Brown-reddish brown, loose, moist, little silt, few black mottles, some ceramic tiles, and wood fragments.  3 4-6 3-3-3-2  Same as at 2-4'.  Dark brown-light brown, loose, moist, finemedium SAND, little silt, wood fragments.	
silt, few black mottles, some ceramic tiles, and wood fragments.  3 4-6 3-3-3-2 Same as at 2-4'.  Dark brown-light brown, loose, moist, fine-medium SAND, little silt, wood fragments.	
Dark brown-light brown, loose, moist, fine-medium SAND, little silt, wood fragments.	
medium SAND, little silt, wood fragments,	
5 8-10 6-7-6-5 Same as at 6-8', some white ceramic tiles	
in sample.	
Dark brown to black, very loose, saturated, fine SAND, some silt and clay, wood fragments, plant stems, etc.	
7 12-14 3-2-3-3 Light gray to black, very loose, saturated, fine-medium sand, some silt and clay, layers of PEAT, (plant stems, wood	
fragments, etc.)	
B 14-16 3-3-3-3 Light brown to reddish brown, soft, saturated, Clay, some silt, little fine sand, and black organic peat (wood fragments, plant stems.)	

And the first of the contraction of the second of the second of the contraction of the second of the

ENGIN	EN (	& GERE S, INC.				TEST BORING LOG	Repor	t of Boring Sheet I	No.: of 1	B-8		
		ocation: ENERAL P	LEY CREEK	SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	Ground Wate	Denth	Da	te te		
Foreman	n: E	SLENN LA	TT-WOLFF INSING LLIAM GABR	IEL		Boring Location:   Ground Elevation: 379   Dates: Started:01/15/	.91			Ended:	01/15	 5/88
			Sample				Stratum		Fie	ld Tes	tino	ĪR
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рН	Sp Cond		m k
	1	0-2	8-4-3-3			Medium brown to yellowish brown, loose, moist, fine SAND, some silt, little clay, trace fine-medium gravel, few wood fragments and root hairs.						
	2	2-4	3-4-4-4		-	Yellowish brown to light gray, loose, very moist, very fine-fine SAND, some silt and clay, few fine root hairs.						
	3	4-6	5-5-7-8			Same as at 2-41.						
	4	6-8	8-11 <b>-58-</b> 2			Reddish brown to dark gray, medium dense, very moist, fine SAND, some silt and clay, few wood fragments, plant stems, etc.						
		0.40	E / 3.3									
	5	8-10	5-4-3-3	(4)		ight brown, medium stiff, very moist, SILT, and very fine sand, little clay, few plant stems and root hairs.						
6	5	10-12	1-3-3-4		Ic	Park brown to black, soft, very moist, SILT, very fine sand, little clay, high organic content (peat), change to: light ray fine sand and silt at 11.0°.						
7	,   	12-14	3-6-11-26			Medium gray, loose to medium dense, saturated fine SAND and silt, some clay, shange at 13' to: reddish brown, fine sand, silt, trace clay, with some fine to medium ravel (TILL).	-					
	$\downarrow$											
	$\downarrow$											
	+								Additional property and the second			
$\perp$	+											
	+											
	L								$\perp$			

O'BR: ENGII	IEN Veer	& GERE S, INC.				TEST BORING LOG	Repo	rt of Boring Sheet 1	No.: of 1	B-9		
170		ocation ENERAL	: LEY CREEK MOTORS	SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	Ground Wat File No.:	Denth		te te		
ores	in: E	GLENN LA	ATT-WOLFF ANSING ONALD T. BL	ISSEY		Boring Location: Ground Elevation: 377. Dates: Started:01/18/	. 8' 88	2		Ended:	01/18	1/88
	Π		Sample	1		01	Stratum		Fie	ld Tes	ting	R
epth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рН	Sp Cond	HNU	₩ k s¥
	1	<b>0</b> -2	1-2-2-4			Dark brown, moist, loose, fine SAND, some silt, trace clay, roots, plant stems, etc.						
	2	2-4	7-7-8-9			Dark brown, loose, moist, fine SAND, little silt, trace clay, plant stems, brick						
	3	4-6	6-8-9-7			fragments, etc.' Same as at 2-4'.						
	4	6-8	4-6-7-7			Dark gray, medium stiff, moist, SILT, some fine sand, little clay, few orange mottles, change to: Dark brown to black at 7-8'.						
	5	8-10	4-4-5-8			change to: Dark brown to black at 7-8'.  Dark brown, fine SAND, some silt, trace						
	_	10.10	2 / 02 22			clay, poor recovery.						
	6	10-12	3-4-20-33			Same as at 10-12'. change at 11.5' to: Reddish-brown, medium dense, moist, SILT and clay, some fine sand, trace coarse sand. (TILL).						
						Sain, Viace Coarse Sain, Viici,						
		-										
	1											
	+											
	$\perp$											
	1											
1	+				$\dashv$							
	T											
1	#											
-	+							1			1	

O' BRI ENGIN	EN EER	& GERE S, INC.			*	TEST BORING LOG	Repo	rt of Boring Sheet I	No.: of 1	B-10		
		ocation ENERAL	: Ley Creek Otors	( SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	Ground Wate	Denth	D:	ite ite		
Forema	n: (	GLENN LA	ATT-HOLFF ANSING ANALD T. BL	ISSEY	10000	Boring Location: Ground Elevation: 379 Dates: Started:01/18/	), 91			Ended:	01/1	 B/8
	Π		Sample				Stratum		Fie	ld Tes	ting	R
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рН	Sp	-	m
	1	0-2	1-1-2-2			Light brown to dark brown, moist, loose, fine sand, some silt, little clay, plant fragments, roots, few orange mottles.						
	2	2-4	3-3-3-5			Dark brown, moist, loose, fine to coarse sand, some silt and clay, wood fragments.						
	3	4-6	3-5-5-7			lisht house to see a						
	3	7-0	3-3-3-7		-	Light brown to orange, moist, loose, fine SAND, some silt, trace clay, wood fragments.						
	4	6-8	5-7-8-9			Dark brown to black, loose, moist, fine SAND, some silt, wood fragments and plant						
						stems.						
	5	8-10	5-5-7-9			ight brown to dark brown, very moist, loose, fine SAND, some silt, trace clay, fine gravel, few orange mottles. Thange at 11° to:						
	6	10-12	5-6-7-8		L	ight brown, SILT, some fine sand, little	ridar-ville de la constante de					
	+					y.	Available of the control of the cont					
	+											
$\dashv$	#											
	#						T-A-CONTRACTOR OF THE CONTRACTOR OF THE CONTRACT					
	+											
	+											

O' BRI ENGIN	EN EER	& GERE S, INC.				TEST BORING LOG	Report	of Boring Sheet I	No.: of 1	B-11		
		ocation: ENERAL M	LEY CREEK	SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	Ground Water	Denth	Da	te te		
Boring	Co.		TT-WOLFF			Boring Location:						
OBG Ge	olo	gist: DO	NALD T. BU			Ground Elevation: 377. Dates: Started:01/18/0	88			Ended:		-
Depth			Sample	Penetr/	"N"	Sample Description	Stratum Change General	Equipment Installed	Fie	ld Tes Sp	ting	Rmk
БСРВП	No		/6"	Recovry	Value	2	Descript	Installed	pH	Cond	HNU	S#
	1	<b>0</b> -2	2-2-8-3			Dark brown, loose, saturated, fine SAND, some silt, trace clay, coarse sand, very fine gravel.						
	5	2-4	5-6-8-4		-	No recovery.						
	3	4-6	4-5-6-5			No recovery.						
		7.5	7000			no recovery.						
	4	6-8	3-5-5-4			Dark brown, loose, saturated, very fine SAND, some silt, little fine-coarse gravel, trace coarse sand.						
	5	8-10	3 <del>-9-</del> 15-13		$\vdash$	1						
			18			Light brown, loose to medium dense, saturated, fine SAND, some silt, clay and coarse sand, little medium gravel.						
	6	10-12	13-17-29-			Light brown, medium dense, moist, SILT, some clay, little fine sand and gravel						
	$\dashv$		. 31 ·			(TILL).						
	+											
	$\forall$											
	4						Tanana and American					
	+											
	+	-			$\dashv$							
	$\dagger$											
	4											
_	+											
	+						,					
_	+				$\dashv$							
							1					
	I											
_	$\downarrow$						To the second					
												$\exists$

O' BR ENGI	IEN VEER	& GERE S, INC.				TEST BORING LOG	'	Report of Boring Sheet I	No.: of 1	B-12	<del></del>	
		ocation ENERAL	LEY CREEK	SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 3	Ground 8 INCHES File No	Water Depth Depth Depth 0: 3247.021.130		te te		
Forema	n: (	SLENN LA	ATT-WOLFF ANSING DNALD T. BU	SSEY		Boring Locati Ground Elevat Dates: Starte	ion: 377.09		•	Ended:	01/19	/88
			Sample			C1-	Stratu	n	Fie	ld Tes	ting	
Depth	No		Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change Genera Descri	l Installed	рН	Sp Cond	HNU	m k s¥
	1	<b>0-2</b>	2-3-4-5			Dark brown, very loose, moist, fine some silt, little clay, trace mediu sand, plant fragments and roots, wo	SAND, m-coarse od. etc.					
	2	2-4	8-9-8-6			No recovery.						
	3	4-6	3-3-4-3			Dark brown, very loose, moist, fine some silt, little clay, trace mediu	SAND, sand.					
	4	6-8	3-4-3-11			Light brown, soft, moist, Silt, som and fine sand, trace medium gravel.	clay					
	5	8-10	3-6-26-32			Reddish brown, soft to very stiff, a CLAY, some silt and fine sand, littl coarse sand and fine gravel (TILL).	oist, e					
						-						
						w s						
	1											
	+											
	+											
	+											
	+											-
1	+											
1	+											
	$\perp$											

O' BRI ENGIN		& GERE S, INC.				TEST BORING LOG	Repo	rt of Boring Sheet I	No.: of 1	B-13	
		ocation	LEY CREEK	SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	Ground Wate	Denth		ite ite	
Forema	n:	GLENN LA	ATT-WOLFF ANSING DNALD T. BU	SSEY		Boring Location:   Ground Elevation: 383   Dates: Started:01/19/	. 01			Ended:	01/18/8
	Т		Sample			1	Stratum		Fie		ting R
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рН		HNU S
	1	0-2	2-3-3-4			Light brown, very loose, moist, fine SAND, little silt, trace clay and coarse sand, root hairs, plant stems, few dark brown, orange and black mottles.					
	2	2-4	4-6-7-6			Same as at 0-21.					
	3	4-6	2-4-6-9			Dark brown to black, loose, moist, fine SAND, some silt, trace clay, wood fragments, plant stems, etc.					
	4	6-8	9-12-12- 16			Same as at 2-41.					
	5	8-10	16-15-14-			Medium brown, medium dense, moist, fine SAND, little silt, trace clay.					
	6	10-12	8-7-5-5		L	ight brown to orange, loose, moist, very ine to fine SAND, some silt, trace clay.					
	7	12-14	3-4-5-8		L	ight brown, loose, moist, very fine to ine SAND, some silt, little fine gravel, race clay.					
	#										
	+										
	+										
$\dashv$	+				$\dashv$			1			

ENGIA	IEN VEER	& GERE S, INC.				TEST B	ORING LOG	Repor	t of Boring Sheet I	No.: of 1	B-14		
		ocation: ENERAL M	LEY CREEK OTORS	SITE		SAI Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wate	Denth		te te		Marie Committee
Forema	n: I	SLENN LA	TT-WOLFF NSING NALD T. BU	SSEY	,		Boring Location: Ground Elevation: 380 Dates: Started:01/19/	.1'		-	Ended	:01/19	/88
	Τ		Sample			A		Stratum		Fie	ld Tes		_
Depth	No	Depth	Blows /6"	Penetr/	"N" Value	Sam Descr	ple iption	Change General Descript	Equipment Installed	рН	1		m
	1	<b>0</b> -2	2-3-2-5			Gray to brown, very l SAND, some silt, litt sand and gravel.	oose, moist, fine le clay, trace coarse						
	2	2-4	3-3-4-3		$\vdash$		rown, very loose,						
						Light brown to dark b moist, fine SAND, som trace coarse sand.	e silt, little clay,						
	3	4-6	16-6-8-8		]	Dark brown black, med moist fine SAND, trac fragments.	ium dense to loose, e silt and clay, wood						
	4	6-8	7-6-6-8			ight brown to dark b							
	5	8-10	4-4-3-4		L	ight brown to dark b							
						noist, fine SAND, lit							
	6	10-12	3-3-2-4			ight brown, very loose silt, some fine sand.							
							٠						
$\dashv$	-				$\dashv$								
	-												
	+												
	$\dagger$												-
	1												
+	+	_											-
	1										-		
	+				-					,		,	
	1												
	T												

ENGIN	EN EER	& BERE S, INC.	and the second s			TEST B	ORING LOG	Repo	rt of Boring Sheet 1	No.: of 1	B-15		
95		ocation: ENERAL P	LEY CREEK	SITE		Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wate File No.: 3	Depth	Da Da	te te		
orema	n: E	SLENN LA	NTT-WOLFF INSING INALD T. BU	SSEY			Boring Location: Ground Elevation: 380. Dates: Started:01/20/				Ended:	01/20	/88
			Sample			6	1-	Stratum	r	Fie	ld Tes	ting	R
epth)	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Descr	ple ription	Change General Descript	Equipment Installed	рΗ	Sp Cond	HNU	k s#
	1	<b>0</b> -2	2-3-4-6			Medium brown, loose, some silt, trace clay stems.	saturated, fine SAND, , root hairs and plant						П
	2	2-4	7-7-5-6			Same as at 0-21, trac	re coarse sand.				_		
	3	4-6	3-4-4-5			Medium brown, loose, some silt. little med							
	4	6-8	4-5-4-5			ark brown to black, loose, saturated, ine-medium coarse SAND, trace silt and lay, plant fragments, root hairs, etc.  ark brown to black, loose to medium dense, aturated fine SAND, little silt and clay.							
	5	8-10	5-5-13-16										
	6	10-12	3-3-12-14										
		10 11	J J IL 14			Medium brown, soft to SILT, some clay and f	ine sand.						
	+												
	7												
	1												
	1												
	-								Name of the Party				
	+						economical state of the state o						
1	+												
$\dashv$	+							-	The second secon				
$\downarrow$	+												
	_												_

		& GERE IS, INC.				TEST B	ORING LOG	Repor	rt of Boring Sheet 1	No.: of 1	B-16		
0.77		ocation: ENERAL M	LEY CREE	( SITE		SAP Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wate	Depth		te te		
oresi	n: E	GLENN LA	NTT-WOLFF INSING LLIAM GABF	RIEL			Boring Location: Ground Elevation: Dates: Started: / /				Ended:	: /	
	Τ		Sample	!				Stratum		Fie	ld Tes		
epth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Descr	ple iption	Change General Descript	Equipment Installed	pН	Sp	HNU	M k
	1	<b>9-2</b>	1-2-2-1			Light brown, very loo SAND, some silt and c root hairs.	se, saturated, fine lay, wood fragments,						
	2	2-4	2-3-3-4			Same as at 0-21.	*·						
	3	4-6	2-6-3-3			ight brown, loose, saturated, fine SAND, ome silt and clay, wood fragments, roots, tc., few black streaks.  ame as at 4-61, Dark brown.							
	4	6-8	3-3-3-3								i)		
	5	8-10	4-5-5-3			Dark brown to black, I SAND, some silt and cl	oose, saturated, fine						
	6	10-12	3-6-4-4			Dark brown, loose, sat	urated. fine SAND.						
						some silt and clay, fe	w black streaks.						
	$\pm$												
	$\pm$												
$\dashv$	+												
$\dashv$	+						The state of the s						-
	$\pm$												
	+												-
1	+								9				
1	+												
	+												
						¥							

Project Client: Boring (		cation:	LEV AREEL									
Boring (		NERAL M		SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	Ground Wate	Depth	Da Da	te te		
OBG Geo	: GL	LENN LA	TT-WOLFF NSING LLIAM GABR	IEL		Boring Location: Ground Elevation: 375 Dates: Started:01/21/	. 8' 88			Ended:	01/21	1/88
			Sample		T		Stratum	<del></del>	Fie	ld Tes	tino	IR
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рН	Sp Cond		mk
1	1	<del>8-</del> 2	2-3-4-5			Medium brown, yellowish brown, and reddish brown, soft, moist, silt, very fine sand and some clay, few plant stems, root hairs,						T
2	=	2-4	6-5-8-7			etc. Same as at 0-2, medium stiff, (saturated).				_		
3	3	4-6	5-5-5-6			Medium to reddish brown, loose, saturated, fine sand, little silt and clay.						
4		6-8	3-3-3-5		<u> </u>	Medium brown, very loose, saturated, fine						
5	Ŧ	8-10	2-3-3-4			sand, some silt and clay-(yellowish brown only" stains on sample.) ledium brown, soft, saturated, silt and				э		
		10.10	4.5.40.00		9	clay, some fine sand, wood fragments, plant tems, etc. Fill at 8.5%.						
6		16-12	4-5-19-23			ledium brown, medium stiff to very stiff, laturated, fine-medium sand, some silt and lay. Therefore change to: at 11 feet: leddish brown, very firm, moist, clay and		a				
	+				5	ilt, some very fine to fine gravel. (TILL)			۰			
	1											
	$\perp$											
	+	-										
	F											
	$\downarrow$											
									And the second second			
•		•			L					1		1

	O'BRIEN & GERE						<del></del>					
O' BRI ENGIN	EN KEER	& GERE S, INC.				TEST BORING LOG	Repo	rt of Boring Sheet I	No.: of 1	B-18		
Projec	t L	ocation:	LEY CREEK	SITE		SAMPLER	Ground Wat	er Depth	Da	te		0000
Client	: 6	ENERAL M	IOTORS			Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCHES	1	Depth	Da	te		
Forema	n:	GLENN LA	TT-WOLFF NSING LLIAM GABR	IEL		Boring Location: Ground Elevation: Dates: Started:02/03/				Ended:	02/03	3/84
	Т		Sample				Stratum		Fin	ld Tes		_
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рН	Sp Cond		IM K
	1	0-2	15-27-35-			Light gray, hard (frozen), dry, SILT and medium coarse gravel (FILL).						+
			44			medium coarse gravei (FILL).						
	2	2-4	41-17-11-			Same as at 0-2%. (Poor recovery).						
			8									
	3	4-6	5-5-6-6			Dark gray, stiff, saturated, silt and clay, some fine sand, and medium gravel, few black organic streaks.						
	4	6-8	5-4-6-7			Same as at 4-6.0%. (No gravel).						
	$\dashv$											
	$\dashv$											
	+											
	4											
	+											
-	+											
	$\dagger$	$\neg \uparrow$										
	1											
	+											
	+				_							
-	+	-			_							
$\dashv$	+			-+	$\dashv$							
	+	-			$\dashv$							
	+	$\neg \uparrow$			$\dashv$			1				
	1				$\dashv$							
	•		1									1
									PACEI	R00598	64	

ENGI	NEER	& GERE S, INC.				TEST BORING LOG	Repo	rt of Boring Sheet I	No.: of 1	B-19		
1.5		ocation: ENERAL D	LEY CREEK	SITE		SAMPLER Type: SPLIT SPOON Hammer: 140 LBS Fall: 30 INCH	Ground Wat	Depth	Da Da	te te		
orema	n:	GLENN LA	NTT-WOLFF INSING LLIAM GABR	IEL		Boring Location: Ground Elevation: 37 Dates: Started:02/03				Ended:	02/03	/88
			Sample			Comple	Stratum		Fie:	ld Tes	ting	
epth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Sample Description	Change General Descript	Equipment Installed	рH	Sp Cond	HNU	M k 5*
	1	0-2	2-3-5-7			Dark gray, soft to medium stiff, moist, SILT, clay and very fine sand, with plant stems, root hairs, etc.						
	2	2-4	5-5-7-7			Light brown-reddish brown, loose, very moist, fine to medium SAND, some silt and clay, few root hairs and plant stems, few				•		
	H					clay, few root hairs and plant stems, few iron mottles.						
	3	4-6	3-3- <del>9</del> -13			Same as at 2-4°, changing to dark brown- reddish brown peat (plant stems, root hair: etc.) banded with bedded fine to medium	5					
	4	6-8	10-22-39-	e e		sand, (very moist to saturated).  Medium gray, stiff, saturated, very fine						
			54			sand and silt, some clay, little fine— medium gravel, change at 7.5° to: Reddish prown, very fine sand, medium silt, some clay, little fine—fine medium gravel (TILL)						
						clay, little fine-fine medium gravel (TILL)						
						¥						
	7											
	1											
	+											
	7											
	#											
1	#											
1	$\pm$											
$\blacksquare$	F					·						

E14D TH	EER	& GERE S, INC.				TEST BO	ORING LOG	Repo	rt of Boring Sheet 1	No.: of 1	B-20		
10000		ocation ENERAL	: LEY CREEK MOTORS	SITE		SAP Type: SPLIT SPOON Hammer: 140 LBS	IPLER Fall: 30 INCHES	Ground Wate	Denth		te te		-
orega	n: E	GLENN LI	ATT-WOLFF ANSING ILLIAM GABR	IEL			Boring Location: Ground Elevation: 374. Dates: Started:02/04/8	. 8°			Ended:	92/94	1/88
			Sample					Stratum		Fie	ld Tes		_
epth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Descr	ple iption	Change General Descript	Equipment Installed	pН	Sp Cond	1	Im
	1	<b>0-</b> 2	2-3-4-6			Light brown-gray, sof fine sand, some clay, hairs, etc.	t, moist, silt and plant stems, root						
	2	2-4	4-4-6-10			Same as at 0-21, with banding.	some iron stains and						
						ark brown to reddish brown, medium stiff, oist, fine SAND, some silt and clay, Black stained sand, present in sample fuel							
	3	4-6	12-15-18-			Dark brown to reddish moist, fine SAND, some	brown, medium stiff,						
	+		17			*Black stained sand, p oil odor.	present in sample fuel						
	4	6-8	12-17-54-			Light grav. stiff. sat	urated, fine sand.						
	$\dagger$		85			silt and clay, sith so gravel, #Black organic	me fine to coarse streaks (oily)			1			
						present. (6-6.5°) cha brown, hard, fine sand	urated, fine sand, me fine to coarse streaks (oily) nge to: Reddish , silt and clay with avel. (Till 6.5-8.0')		1				
	$\perp$					some fine to coarse gr	avel. (Till 6.5-8.0')						
	1								er entre				
-	+												
$\dashv$	+				$\dashv$								
$\dashv$	$\dagger$				$\dashv$								
	1								1				
													1
_	$\perp$											ı	
$\dashv$	+				_			1	1				
$\dashv$	+				$\dashv$								
$\dashv$	+	-		+									
+	+	+											
	T												
	$\prod$												
_	1												
	1												-

		& GERE S, INC.				TEST B	ORING LO	G	Repo	rt of Boring Sheet 1	No.: of 1	B-22		
Projec	t L	ocation:	LEY CREEK	SITE		SA Type: SPLIT SPOON	MPLER		Ground Wat	er Depth Depth		ite ite		
Client	: 6	ENERAL M	IOTORS			Hammer: 140 LBS		Fall: 30 INCHES	File No.:	3247.021.130	Do.	166		
Forema	n:	GLENN LA	TT-WOLFF INSING LLIAM GABR	IEL			Ground	Location: Elevation: 376. Started:02/04/0	. 6° 88			Ended:	:02/04	/88
			Sample			C			Stratum	F	Fie	ld Tes	ting	
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Desci	mple ription		Change General Descript	Equipment Installed	ρН	Sp Cond	HNU	m k s*
	1	8-2	2-4-11-13			Medium gray to light dense, moist, fine Sf clay, plant stems, ro	brown, I	oose to medium						T
	2	2-4	9-11-19-		$\vdash$	Same as at 0-2', with stains and black orga								
			27			stains and black orga	anic stai	ns.						
	3	4-6	25-24-35-			Yellowish to reddish dense, moist, fine-me	brown, m	edium dense to						
			18			dense, moist, fine-me and gray clay.	edium SAN	D, little silt						
	4	6-8	9-8-8-10			Medium brown-gray, st and silt, with few li	iff, sat	urated Clay						
						nottles.		or Editor dire						
	_													
	4													
	4													
	4													
	$\dashv$													
	4					141			-					
	$\dashv$													
	$\dashv$													
	+													
-	+													
	+													
	+				-									
	+													
-	+								1					
	+				$\dashv$					1			1	
	+	$\dashv$											1	1
-	+				$\dashv$									
$\dashv$	+													
	+				—				- Participan					
	1												$\perp$	4

O' BRI ENGIN	IEN VEEI	& GERE RS, INC.				TEST B	DRING LOG	Repo	rt of Boring Sheet 1	No.: of 1	B-23		
		ocation: SENERAL M	LEY CREEK IOTORS	SITE		SA Type: SPLIT SPOON Hammer: 140 LBS	MPLER Fall: 30 INCHES	Ground Wate	Depth	Da Da			
Boring Forema OBG Ge	Co in:	o.: PARRA GLENN LA ogist: WI	TT-WOLFF NSING LLIAM GABR	IEL			Boring Location: Ground Elevation: 376. Dates: Started:02/05/	. 6' 88			Ended:	02/05	/88
	Γ		Sample			0	•	Stratum		Fie	ld Tes	ting	
Depth	No	Depth	Blows /6"	Penetr/ Recovry	"N" Value	Descri	ple ription	Change General Descript	Equipment Installed	рΗ	Sp Cond	HNU	m k s¥
	1	0-2	2-6-8-9		+-	Dark brown-gray, loos fine SAND, some silt and roots, etc.	se, moist, very fine- and clay, plant stems						
	2	2-4	5-6-7-8		$\Box$	Same as at 0-2', with and wood fragments.	light gray mottles						
					$\square$								
	3	4-6	7-8-8-7			Light gray to dark gr moist, silt and clay, sand, few iron mottle							
	4	6-8	6-5-4-5			Light gray-brown, loc SARD, some silt and c limonite mottles.	se, saturated, fine lay, with iron and						
	limonite mottles.					limonite mottles.							
					$\vdash$			1					
										- 1			
													1
								1			1		
	$\downarrow$												
	4												
													_

Attachment D
Soil Boring Analyses



CLIENT GENERA	AL MOTORS CORPORATION			JOE	324	7.041.517
DESCRIPTION	Ley Creek, Composite So	oil Samples	from Bori	ngs		
DATE COLLECTED	See Below DATE REC	סים1-15-8	8	DATE ANAL	YZED 1-19	-88
SITE	DATE COLLECTED	SAMPLE #	PCB mg/kg dry weig	AROCLOR		PERCENT TOTAL SOLIDS
B6 0=4	7.12.00	G4609	597-46			
B6 4-8'	"	G4610	180.	1248		773.
B6 8-121		G4611	28.	1248		66.
		* 1.4.761.G401L	20.	1248		69.
B7 0-41	FI-13-88	G4612	4.4	<b>31248</b>		77.
B7 4-8'	11	G4613	<1.		Sec. (200) Sec. Sec. Sec. Sec. Sec.	76.
्रिकेटी B7 <del>।</del> 8-12	<b>然过少</b> 未了。 <b>见</b> 家	G4614	7.8	1016/1242	/1248	79
B7 12-16'		G4615	4.4	1016/1242	/1248	62.
		医安定剂				
B8 0-4'	1-15-88	G4616	2.1	1248		81.
- 4-88 - 4-8		G4617	8.6	1016/1242	/1248	77.
B8 8-12'	!!	G4618	<1.			74.
88 12-141		G4619	. (20 th			80-
Eield-Blan	k (FB-2)	G4620				STOO STOO
					- 45p 40 mg	
						-68 -68 -68 -68

Methodology: Federal Register — 40 CFR, Part 136, October 26, 1984

Units: mg/( (ppm) unless otherwise noted

Comments:

OBG Laboratories, Inc. Box 4942 / 1304 Buckley Rd. / Syracuse, NY / 13221 / (315) 457-1494 Authorized: March 11, 1988



CLIENT GENERAL MOTORS C	ORPORATION				NO3247	.041.517
DESCRIPTION Ley Creek, Co	omposite Soi	1 Samples	from Borin	ngs		
DATE COLLECTED See Below	DATE REC	rp. 1-20,2	2-88	DATE ANAL	YZED 1-22	-88
SITE	DATE COLLECTED	SAMPLE #	PCB mg/kg dry weig	AROCLOR		PERCENT TOTAL SOLIDS
B12 0=24	1=19-88	G4716	The latest the second to the second			70.
B12 4-8'	11	G4717	<1.			77.
B12 8-10		<b>G4718</b>	(I.			89.
B13=0-4'	L=19-88	G4719	- 5. (1. ≤ <sub>3.</sub> §	an against		83
B13 4-8'	11	G4720	<1.			83.
B13 8-121		G4721	D.			82.
B13 12-14'	11	G4722	<1.			82.
B14 0-4'	1-19-88	G4723	<1.			85.
B14 54-8	<b>一角新</b>	G4724	<b>(1</b>			84
B14 8-12'	11	G4725	<1.			79.
				E T		
Field Blank		G4726	<1.			-
Comment of the last	···-					
B15 0-2'	1-20-88	G4767	<1.			85.
BIS POLY		5€3G4768				79.
B15 4-8'	11	G4769	<1.			82.
· · · · · · · · · · · · · · · · · · ·		G4770				ু ্79:

Methodology: Federal Register — 40 CFR, Part 136, October 26, 1984

Units: mg/f (ppm) unless otherwise noted

Comments:

OBG Laboratories, Inc. Box 4942 / 1304 Buckley Rd. / Syracuse, NY / 13221 / (315) 457-1494 Authorized: March 11, 1988



CLIENT GENERAL MOTOR	RS CORPORATION				B NO3247	7.041.517			
DESCRIPTION Ley Co	reek, Composite	Soil Sampl	es from B						
DATE COLLECTED See Bel	OW DATE REC	D. 1-22-88		DATE ANAL	YZED <u>1-22</u>				
		2-3-88	r	2-9-88					
SITE	DATE COLLECTED	SAMPLE #	PCB mg/kg dry weig	AROCLOR		PERCENT TOTAL SOLIDS			
≃B16 0-4		G4771	25 (D. 55			79.			
B16 4-8'	11	G4772	<1.			79.			
B16 8-12		G4773	-KO.**			79.			
		The second second second second	- Almed Palestand			- a section and an and			
B17 0-20 F		98= G4774	= <i.< td=""><td></td><td></td><td>89.</td></i.<>			89.			
B17 2-4'	ř.	G4775	<1.			63.			
S - B17-4-8	7.4.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	G4776				.81.			
B17 8-12'	11	G4777	<1.			80.			
	A PARTY OF THE PAR	45256							
Field Blank	C WOTE Last 1 (The Artist Last 1)	G4778	<1.			100.			
B18 0-2'	2-3-88	G5252	<1.			91.			
E-B18 72-41		€ G5343			2.7.76	94.			
B18 4-8'	ll de la company	G5253	<1.			77.			
B19 0-4'									
BI9 4-81	2-3-88	G5254	27.	1248		74.			
D13 4-0		G5255	Kr.			72			
			au ar		en e	breviewskie			
			and the second						
		A CONTRACTOR OF THE PARTY OF TH							

Methodology: Federal Register — 40 CFR, Part 136, October 26, 1984

Comments: \*No Anaysis - Rock

OBG Laboratories, Inc. Box 4942 / 1304 Buckley Rd. / Syracuse, NY / 13221 / (315) 457-1494 Authorized: March 11, 1988

Units: mg/l (ppm) unless otherwise noted



CLIENT GENERAL MOTOR	RS CORPORATION				B NO3247.	041.517	
DESCRIPTION Ley Cree	k, Composite So	oil Samples	s from Bor	ings			
Soo Pol	011	2.5.4			22		
DATE COLLECTED See Bel	OWDATE REC	. 2-5-8	38	DATE ANA	LYZED2-9-	88	
SITE	SITE DATE COLLECTED		PCB mg/kg dry weig	AROCLOR		PERCENT TOTAL SOLIDS	
B20 0-4'	2-4-88	The second second second	No. of Contract of			76.	
B20 4-8'		G5435	<1.			71.	
B21 0-4'	2-4-88	G5436	7.5	1248			
7 B21 4-81	2-4-00 	G5436	3.5	1248		74. 81	
		14.00 ACC 21.00				01.	
B22 = 0-41	2-4-88	G5438	2.2	1248	NA SATE	81.	
B22 4-8'	11	G5439	<1.			84.	
					A STATE OF THE REAL PROPERTY.		
B23 0-2'	2-5-88	G5441	<1.			80.	
	· Sept. Till Sept.	€ G5442	No.	<b>斯勒特也</b>	24.55	74.	
B23 4-6'	11	G5443	<1.			71.	
B23 6-8		G5444	(A)			- 81.	
Field Blank		G5445	×1.			100.¬/-	
	10. 11. 11. 11. 11. 11. 11. 11. 11. 11.						
				en ag interior			

OBG Laboratories, Inc. Box 4942 / 1304 Buckley Rd. / Syracuse, NY / 13221 / (315) 457-1494

Comments:

Authorized:

March 11, 1988

RACER0059870

Units: mg/l (ppm) unless otherwise noted



Comments:

OBG Laboratories, Inc. Box 4942 / 1304 Buckley Rd. / Syracuse, NY / 13221 / (315) 457-1494

# Laboratory Report

CLIENT GENERAL MOTORS CORPORATION	JOB NO. 3247.041.517							
DESCRIPTION Ley Creek, Surface	Water							
DATE COLLECTED 1-15-88 DATE	REC'D. 1-18-88		DATE ANAL	YZED1-19	9-88			
SITE 	SAMPLE #	PCB ppb						
SW-1	G4596 G4597	<0.1 <0.1						
SW-3	G4598	₹\$<0.1						
					4			
				在形器				
ethodology: Federal Register — 40 CFR, Part 136, Oc	tober 26, 1984		Units: mg/	(ppm) unless	otherwise noted			

Authorized:\_

RACER0059871

March 11, 1988

3247.6-120



SURVEY					PLERS	500 010 000 1 00 0p • 10 0		,				
611	-LET CREEK	ato		Th.	il	i	-9	Lebe	ui.			
HONATZ REBMUM	STATION LOCATION	DATE	ПМЕ	Sal Wa Coma.		PE Air	SEQ. NO.	NO. OF CONTAINERS	AMALYSIS REQUIRED			
	82-2 (0-2)	1/1/80			V			;	PCB's (SW846-8080			
	82-2 12-41	1.1.199	;		1			1				
	84-3 14-61	1./11/88			2			1	:			
	82-4 16-81	1/11/88			1			ı				
	81-5 (5-16)	1/11/83			~		-	1				
	BZ-1 (0-2)	1/11/88	•		-	į		,				
	BZ-Z (2-41)	1/11/89			1			1				
	32-3 (4-6")	1/12/09			1		Ì	,	AND AN ARMY OF CONTRACTOR CONTRACTOR AND ARMY AN			
	33-4 (6-8)	1/12/88			1		1	1				
	BZ-5 (8-101)	1/12/89			-1		1	1	3			
	B2-6 (16-12)	1/12/85	į	1	1			,	!			
	BZ-7 (12-14)	1/12/08		İ	~	-		,	?			
Relinquish	lling Habrel	1/13/88	Receive	ed by:	Signoru	rej			Date/Time			
Relinquist	hed by: /Sigmore;		Receive	ed by:	Signaru	741			Date/Time			
Relinquisi	elinquished by: (Signatura)				Signatur	•)			Date/Time			
				Received by Mobile Laboratory for field Do								
Dispatched by: (Signature) Date/T				Rođeiv	die	Labo	ratory	y by:	Date/Time			
dernod of	Shipment:		· ·			V	J		71.71.70.13			





SURVEY				SAMPL	RS: Isig	nsturej	,	
50	1-LEY PREEK			12.6	Elien	2۔	Lean	~ <u>r</u>
STATION				SAMPLE		SEQ.	1	AMALYSIS
HUMBER	STATION LOCATION	DATE	:IME	Came. Gra	a. Air	NO.	CONTAINERS	
	B3-1 (0-2)	1/12/58	5	1 /			1	ACE'S (SWEH6-808
	83-2 (2-41)	1/12/58		-	1 .		,	1
	83-3 (4-6)	1/12/88					,	
	33-4 (6-81)	1/12/88		/			,	
	B3-5 (8-10°)	1/12/82		/			1	
	B4-1 (0-2')	1/2/08					/	
	84-2 (2-41)	1/12/88	1	/			1	
	34-3 (4-61)	1/12/88		/			j	
	84-4 (6-81)	1/12/88		/			1	Ì
	B5-1 (0-2)	1/13/88		1			1	
_	35-2 (2-41)	1/13/55		1		1	,	
_	65-3 (4-61)	1/13/58		1			1	j
	ed by: (Signature)			ed by: (Sign	grure)			Dats/Time
Walter Street Street Street	ed by: (Signature)			ed by: (Sign	alure!	-		Date/Time
Relinquish	elinquished by: (Signatura)			ed by: (sign	sture)	•		Ogte/Time
Relinquish	ed by: (Signature)	Receive	ed by Mob s: (Signature)	Date/Time				
Dispatched	ispatched by: (Signature) Date/Ti			Received.	61.	lisa		Date/Time
vernod.of	Shipment:		<del>'</del> '7	. 10 121	120	UD	07.6	713001 5.10



SURVEY						S: (Sign							
	CM-LEY CARK			16	26	Cean	megle	. Exba	ue q				
NOITATZ REBMUN	STATION LOCATION	SIAO	IIME	W	MPLE 1 dier   Gras.	YPE Air	SEQ.	NO. OF CONTAINERS	ANALYSIS REQUIRED				
	65-4 (6-A1)	1/13/8	F	1	1			1	BACB (SWE46-EU				
	B5-6 (B-10)	1/13/59		İ	/			1	· ·				
	B5-6 (10-12)				1			1					
	Field Blank AB-I	1/13/58	,					/	1				
	-												
	¥												
2													
1													
Relinquish	ed by: (signamore)	1/13/28 10:10A	Receiv	ed by:	(Signar	irej		1	Date/Time				
Relinquish	ed by: (\$ignature)		Receiv	ed by:	(Signar	1791			Date/Time				
lelinquish	ed by: (Signawie)	Receiv	ed by:	(Signatu	re)	· · · · · ·		Date/Time					
Relinquish	elinquished by: (Signature)				Received by Mobile Laboratory for field analysis: (Signature)								
Dispatched by: (Signature)				/Time Received for Laboratory by: Date/Time									
dethod.of	Shipment:			110	IN F	216	DYL.	11	1/13/120 10:10				



SURVEY				SAMPLERS: (Signature)									
	507 - Low Calana			/	. 5.			En 12					
					MPLE I		T .	1					
STATION	STATION LOCATION	DATE	TIME		107		SEQ.	NO. OF	AMALYSIS				
NUMBER				Come.	Grae.	Air	NO.	CONTAINERS	REQUIRED				
	86-1 18-51	1/13/00			1			1	RBS (SW846-3086				
	36-7-12-47	1/13/0			1			1					
	P1-5 (4-67)	VIISlex			1			1					
	BE-4 (4-E)	1/13/88			1			,					
	36-5 (2-10)	1/13/88			1			,*					
	B6-6 (10-12')	1/13/88			1			! .					
	37-1 10-23	1/12/52			1			1					
	37-2 12-40	1/13/85			1			1					
	137-3 14-61	1/13/48			-			1					
	17-4 11-80	lila iss			1			/					
	87-5 10-109	1/13/88			1			1					
	S7-6 110-12)	1/15/88			1			!	4				
Relinquish	ed by: (signature)	1/15/88	Receiv	ed by:	Date/Time								
	ed by:/(Signenne)		Receive	ed by:	(Signar	ire!			Date/Time				
Relinquish	elinquished by: (Signature)			ed by:	(Signatu	roj			Oate/Time				
Relinquish	elinquished by: (Signorure)				Received by Mobile Laboratory for field Date/Timanalysis: (Signature)								
Dispatched	ispatched by: (Signovurei Date)			Receiv		r Labo	rator	y by:	Date/Time				
Mernad at	Shipment:			V	-1		100	100	11100 1110				

3237.



37,475.21

SURVEY				SAMPLERS: (Signature)									
6	M-LEY CETTK	<del></del>	т	SAM	CZ PLE TO	Lisin IPE		1 2 6	roce.				
nonatz Remun	STATION LOCATION	SIAO	TIME	Ware Come.	,	Air	SEQ. NO.	NO. OF CONTAINERS		AMALYSIS REQUIRED			
	37-7 (12-14)	1/13/0	V		v.			1	PCB's	(SW844-808			
	87-8 (14-16.)	1/13/20	-		/			1		İ			
	88-1 10-21	1/15/5	£		-			1					
	88-21/241)	1/15/18			/			1					
	88-3 14-61	1/15/99						,					
	38-4/1-01	distes		1	-			,					
	38-5 19-10	destes		-				1					
	88-6/10-12-1	1/15/50		1				1					
	88-7 (19-141)	1/15/5		/				1					
	FIELD Blowx (ROZ	1/13/10		-	-1			/					
										1			
										V			
Relinquish	ed by: (Signature)	1/15/87	Receive	ed by: (s	gnatu	rej		5		Date/Time			
Relinquish	ed by: Signature)		Receive	d by: (s	gnatu	791				Date/Time			
elinquish	elinquished by: (Signatura)			d by: (si	natur	-1	·			Date/Time			
elinguish	elinquished by: (Signatura)				Received by Mobile Laboratory for field   Date/Time analysis: (Signature)								
ispatched	ispatched by: (Signature) Date/			Received	for	4 1 1 1	•	•		Date/Time			
lethod at	Snipment:		0	1111	-1	CLC	1 HA	n (	- + //	1900 H,W			



SURVEY SAMPLERS: (Signature)										
SURVEY	F.M. Ley CI	rek		A	Er	Ple	W.	Fo , 1.	4. 1	Appleton
MONATZ RBBMUH	STATION LOCATION	SIAO	:IME	SA We Come.		PE Air	SEQ. NO.	NO. OF CONTAINERS		AMALYSIS REQUIRED
SNI	Sediment 1 North	1-158	3					1		\
561	Sediment 1 Center							L	5	1 PCB
551	Sediment 1 South							1	/	/·
5N2	Sediment 2 North							l	\	
562	Sediment 2 Center							(	Sã	PCB
552	Sediment 2 South							1	/	
5N3	Sediment 3 North							(	\	
SC 3	Sediment 3 Center							1	S3	PCB
553	Sediment 3 South							1	/	
	Sediment 4 North							1		
504	Sediment 4 Center								54	PCB
554	Sediment 4 south	1					. ]	1	/	
	ed by: (Signature)	*	Receiv	ved by: (Signature)						Date/Time
Contino										
Reiinquish	ed by: (Signature)		Receive	ed by:	(Signari	1001				Date/Time
Relinquish	ed by: (Signature)		Receive	ed by:	(Signatu	rol				Date/Time
	Kenndalzueg av. (ademore)									
Relinquish		Receive		Date/Time						
Dispatched	i by: (Signoture)	Date/	Time	Receiv	ed fo			y by: 22A N.C		Date/Time
Mernod at	ternod at Shipment:									



SURVEY				SAN	IPLER	S. /Sign	anesi		
	M. Ley Cro	-pl		1	En	200	7		
<u> </u>	. 101, LLY CTC	CA		1/1,	MPLE IN	490	10	1	1
NOITATE	STATION LOCATION	DATE	TIME		mrcg in		SEQ.	NO. OF	AMALYSIS REQUIRED
Nomeca				Come.	Gras.	Air	140.	CONTAINERS	AEGGIRED
SN5	Sodiment 5 North	1-1588	3					1	_
SC5	Sediment 5 Center								S5 PCB
555	Sediment 5 South								/
5N6	Sediment 6 North								
506	Sediment 6 Center				I				S6 PCB
556	Serliment 6 South								/
511/1	Surface Water 1								PrB
5W2	Surface Water 2				İ				PCB
5W3	Surface Water 3	V						0/	PCR
330 3	JU11400 1 414 3		1 1	$\overline{}$			$\neg \dagger$		707
					1		i		
				$\dashv$	+	$\dashv$	-		
Reijaguis	post (Signapura)		Receive	ed by:	(Signaru	rej			Date/Time
Relinquish	ed of: (Signature)		Receive	ed by:	Signaru	rai			Date/Time
Relinquish		Receive	d by:	(Signatu	101	-		Octe/Time	
Relinquish	Relinquished by: (Signatura)				Aobile vel	Labo	ratory	for field	Date/Time
Dispatched	t by: (Signorura)	Date/		Regeiv	~ /.	Labo	rator	y by:	Date/Time /18/88 9:00
Mernod.at	Snipment:		- j	I JUTU	70	eltle	W.A.	41	1/8/30 7.00
									1



SURVEY						SAMPLERS: (Signature)								
G.M.	1 ley Creek			D.	丁.	Bu	1550	4 lon	UFB	wy				
NOITATE REBUUN	STATION LOCATION	DATE	IIME		MPLE I		SEQ.	NO. OF	AMA	UIRED LINED				
1B9	0-21	1/18/88	1005		X		1	1	SW8+6	-3030 (m/s.)				
<u>80</u>	2-4'	/	1010		X		2	1						
1. B9	4-6'		1030		X		3	1	(					
B9	4-6' 6-8'		1040		X		4	1						
B9	8-10'		1050		X		5	1						
B9	10-12'		1100		X		6	1						
B10	0-21		/230		X		7	1						
B10	2-4'		1235		X		8	1						
, B10	4-6'		1240		1		9	1						
B10	6-8'		1245		X		10	1						
1B10	8-10'		1200		X		11	1						
-B10	10-121	0	1300		X		12	1	7	5				
Relinquish	Soly: Simonore 1/18/	188.	Receive	d by:	Signatui	Dat	e/Time							
Relinquish	ed by: (Signature)		Received	d by:	Signaru	<b>1</b>			Dat	e/Time				
Relinquish	ed by: (Signamie)		Received	d by: (	Signatur	<del>-</del> )			Dar	e/Time				
Relinquism	Relinquished by: (Signorura) Receive analysis					Labor	atory	for field	Dat	e/Time				
Dispatched	by: (Signature)	Date/1	1 1	Received far Laboratory by:						e/Time 1 3:30				
Method.of	Shipment:													
				THE REAL PROPERTY.	THE RESERVE		-							

\* Transferred BIC-6 (10-12) to Shother for

OBG Laboratories, Inc.

Box 4942 / 1304 Buckley Road / Syracuse, New York 13221 / (315) 457-1494 Oakdale Medical Building / 700 Harry L. Drive / Johnson City, New York 13790



SURVEY			SAMPLERS: (Signature)								
G.M.	ley Greek			D	元	Bus	jey	Soul	11/10	Zissi	"\
NOITATE REBMUN	STATION LOCATION	BIAG	TIME	We	MPLE I'	PE Air	SEG. NO.	NO. OF CONTAINERS		NALYSI BOURE	
N B11	0-2'	1/18/88	1400		X		13	1	Sec	16-8	080
B11	6-81	/	1415		7		14	1			
if B11	8'-10'		1420		7		15	ł			
B11	8'-10'	10	1430		7		16	1		4	7
	FB3 (FILLD BLANZ	1/18/88			A			/			
										N	
	3.1									V	
Reinquis	Sad by: Signatures 1/18/8	58	Receiv	ed by:	(Signar	ure)			Date/Time		
Relinquisi	hed by: (Significant)	iš.	Receiv	ed by:	(Signar	urai	2			Date/1	Time
Relinquish	ned by: (Signatura)		Receive	ed by:	(Signati	eroj		Philipper of an electric frequency and a control		Date/1	lime
Relinquisi	Relinquished by: (Signature)				Mobile		orator	y for field		Date/1	lime
Dispatche	Dispatched by: (Signovure) Date,				/Time   Received for Laboratory by:						
Method.ol	t Shipment:										<u>37,3</u> 8



SURVEY			<del></del>	SAMPLE	S: (Sign	naturoj	///	11/10				
6.m.	- Ley Creek:			D.T. Bussey Golf-Bysy								
STATION	STATION LOCATION	DATE	TIME	SAMPLE 1 Water Come. Gross.	1	SEQ. NO.	NO. OF CONTAINERS	ANALY				
B12-1	0-2'	1/14/88	0925	X		1	1	Sec W.J. C	jubre 1			
B12-3	4-6'		0935	χ		2	1		/			
B12-4	6-81		0945	×		3	1					
B12-5	8-101		0955	X		4	1					
B13-1	0-2'		1140	X		5	1					
B13-Z	2-4'		1145	X		6	1					
B13-3	4-6'		1155	X		7	1					
-4	6-8'.		1200	1 *		8	1					
313-5	8-10'		1205	1	•	9	- 1					
313-6	10-12		1210	X		10	1					
313-7	12-14		1220	1 *		11	. 1					
	, 0-21	D	1420	X		12	1	1				
Relinguish	1 1/88 /6	60	Receive	ed by: (Signe	Dats	/Time						
Relinquish	ed by: (Stance)		Received by:  Signatures Date/Tim									
Relinquish	ed by: (Signature)	Receive	ed by: (Signa	Octa	/ोंजब							
Relinquish	ed by: (Signatura)		ed by Mobil S: (Signatura)	Date	/Time							
Dispatched by: (Signature) Date/Ti				Time Received for Laboratory by: Date/Time								
	Shipment:	Time			,		//19/8A	1/3				



URYEY	SAMPLERS: (Signatura)								
6-m.	- ley Creek	DT. Bussey Solf Thank							
STATION				No.	MPLE TY	PE	SEQ.	NO. OF	AMALYSIS
NUMBER	SIANON LOCATION	SIAO	TIME	Come.	-	<u> Air</u>	NO.	CONTAINERS	REQUIRED
14-2	2-4'	1/19/88	1425		X		13		See W.J. Gabre
44-3	2-4' 4-6'	/	1435		X		14	1	
14-4	6-8'		1440		X		15	1	
4-5	8-10'		1450		X		16	1	•
46	10-12'		1455		X		17	1	
	FIELDBLANK	1	-		X		18	1	D
	,					•			
				The William of the World					
1	Λ								
Sp. C.	1/19/88	1600	Recai	ed by	: {Signa	turoj			Date/Time
elinquis	hed by: (Signatural		Receiv	ed by	:  Signa	Arres			Date/Time
Relinquished by: (Signature)			Recei	red by	Octa/Time				
elinquis	ned by: (Signonura)		Recair			ie Lab	arata	ry far field	Date/Time
Dispatched by: (Signown) Date				Reca	Date/Time				
dethod.c	ot Shipment:		2	11		~~~	00		



SURVEY				SAM	IPLERS	: (Signa	rurej	1. 3	1		_
651	4-LC9 CREEK	William J. Sahar									
NOTIATE REBMUN	STATION LOCATION	DAIE	IIME		MPLE TYP	Air	SEQ. NO.	NO. OF CONTAINERS		AMALYSIS REQUIRED	
	B15-1 (0-2)	1/20/8	В		1			,	5W8	46-8080	_ \
	B15-2 (2-4')	1/20/88	,		/			1			
	B15-3 (4-6')	1/20/90	1		/			/			_ )
	B15-4 (6-81)	1/20/88	/					1			
	815-5 (8-18)	1/20/88			1						- `\
	815-6 (10-12')	1/20/88			/			1		(a)	)
	B16-1 (0-2')	1/20/88			/			1	-		- `\
	816-2 (2-4')	1/20/88	.	-	/			1			7
	816-3 (4-6')	1/20/88			/			1			`
	816-4 (6-8')	1/20/88			/			1			)
		1/20/88			/			,	İ		•
1		1/20/88			/			1	V		ソ.
Relinquist	led by: Isignamusal Helini	1	Receive	ed by:	(Sig <del>natur</del> e	*†			1.1	Date/Time	+ 0
Relinquisi	ned by: (Signerure)		Received by: (Signature) Date/Time								
	ed by: (Signaru:a)	Received by: (Signature) Octa/Tis									
Relinquish	Receive	Received by Mobile Laboratory for field Date/Time analysis: (Signature)									
Dispatche	d by: (Signature)	0.00	Receiv OLA		6.1			1/2	Date/Time		
derhod.of	Shipment:		·		0		- 121				



SURVEY	SAMPLERS: (Signature)									
	William J. Hebrew									
NORATZ REDMUN	STATION LOCATION	SIAO	IIME	54	MPLE T		seq.	NO. OF	AMALYSIS	
	817-1 (0-21)	1/21/85	d		1			1	SN846-8080	
	B17-2 (2-4)	1/22/81			1			/	1	
	817-3 (4-61)	1/21/83	P		1			1		
	B174 (c-e)	1/21/80	F		1			,		
	817-5/8-101)	1/21/88	1		1			1		
	B17-6 (10-12')	1/21/83			1			,	1	
10	FB-+ Field Blank	1/21/88			/			1	7	
				-						
		49								
			***************************************				1			
			1							
						ĺ				
elinquish	ed by: (Signature)		Receive	d by:	Signatu	roj			Date/Time	
elinquish	ed by: (Signature)	Received by: (Signature)   Date/Time								
elinquishe		Received by: (Signature) Date/Time								
elinquishe	ed by: (Signature)	Received by Mabile Laboratory for field   Date/Time analysis: (Signature)								
ispatched	by: (Signature)	îme   8	Received for Laboratory by: Date/Time  White Income 121/491 3:34							
ernad.of	Snipment:	'	,	-)-(	J.	411	· !' .(		11 11 11 (1.6) 4	



SURVEY					APLER						<b>Constant</b>
6M-LCT CREEK						in	D				
HOILATZ REBMUH	STATION LOCATION	STAC	TIME	We	MPLE I'	Air	SEQ.	NO. OF CONTAINERS		MALYSIS EQUIRED	Octomas
	B18-1 (0-2')	2/3/88			1			1	PCB(s	W846-80	180)-
	818-2 (2-41)	2/3/88			1			,			
	B18-3 (4-6')	2/3/88			/			1			7
	B18-4 (6-81)	2/3/88			/			1			
	B19-1 (0-2')	2/3/88			1			,			7
	819-2(2-41)	3/3/88			1			1			
	B19-3 (4-6')	2/3/88			1			,			7
	B19-4 (6-8')	2/3/88			1			1,	J		
			no Reportune y								-
			İ		-						-
						1					-
leiinquish	ed by: (signopura)	4:30 P 2/3/88	Receive	d by:	(Signatu	rej			D	ats/Time	-
	ed by: (bigranure)		Receive	d by:	(Signaru	rel	D	ate/Time	•		
Received Received					(Signatus	re)	00	ate/Time			
Receive analysis						Labo	00	ate/Time	•		
ispatched	Receiv	ed for	Laba	2/3/	ite/Time	Pr					
ernod.ot	Snioment:			<i>.</i> .	A	14 /				31. 1.00	



52°7. (27 50°

SURVEY  CM - LZY CRZZK					SAMPLERS: (Signature)							
					lèis	Encl						
NOILATZ REBMUN	STATION LOCATION	DATE	IIME	SAMPLE Water Come. Gras	Air	SEQ.	NO. OF CONTAINERS	AMALYSIS REQUIRED				
	B20-1 (0-2)	2/4/2	у			.'	j	PCB (SWE+6-903				
:x	321-9 /2-41	li		1		•	1	1				
	820-3 14-60	1		d. C. Library			,					
	826-4 16-81			Ī			1	_				
	821-1 (0-21)						,					
	821-2 (2-41)	i					,					
	621-3 (4-81)						,	7				
	871-4 (6-8°)						1					
	322 1 (0-2)		-				1					
	322-2 (2-41)	i					/					
	822.3 (4-61)	8 8					/					
	522-4 (6-81)	业		ζ.				2				
nauish	ed by: (signature)	5:151	Receive	d by: isigna	rurej			Date/Time				
				d by: (Signa	rure!	Date/Time						
			Receive	d by: (Signa)	2/4/88 515							
nquish	d by Mobil : (Signanura)	e Labo	Date/Time									
atchec	Received for		Date/Time 45/8   13:00									
nod of	Snipment:			(	411			730 73700				



SURVEY				SAN	APLER	S: (Sign	rature)				
6	William of Gebruit										
NONATZ R38MUM	STATION LOCATION	SIAO	ПМЕ	-	MPLE I'	Air	SEQ. NO.	NO. OF CONTAINERS	AMALYSIS REQUIRED		
	BZ3-1 (0-2.)	2/5/8	P		/			Í	PCB (SN8+6-8080		
	B23-2(2-41)	2/5/88	۲		1			1	1		
	823-3 (4-6')	2/5/89	,		1			1			
3	823-4 (6-81)	2/5/8	8		1			,			
	FIELD BLOWK	2/5/88			1		-	1	4		
									a 2 a		
				1	İ						
				Ì	Ì						
						Ť					
delinquish	led by: (Signature)	13:30	Receive	d by:	Signatu	rej			Date/Time		
Relinquished by: (Signature)			Receive	d by:	(Signatur	Date/Time					
elinquished by: (Signature)			Receive	d by:	(Signatur	Oate/Time					
elinquish	Received	d by M	lobile	Date/Time							
ispatched	t by: (Signatura)	Time Received for Laboratory by: Date/Time 25/881 /3:3									
ernad at	Snioment:				J	- / 10			100 757,50		

OBG Laboratories, Inc. Box 4942 / 1304 Buckley Road / Syracuse, New York 13221 / (315) 457-1494 Oakdale Medical Building / 700 Harry L. Drive / Johnson City, New York 13790